REMARKS

1. Amendments to the Specification

The specification has been amended to correct self-explanatory clerical errors.

2. Amendments to the Claims

Claims 55, 65-67, 91, 94, 102, 119, 130, 140, 148, 152, 158-160, 164, 173, 176, 180, 184 and 186 have been amended to correct self-explanatory clerical errors.

3. Claim Rejections - 35 U.S.C. § 102

Overview

The Applicant's methods and systems monitor a market on a level 2 basis[1] to watch for relationships and interactions among the actions of market makers. This is carried out across a plurality of securities. Thus, the inventive subject matter of the present application is directed to systems and related methods for observing the activity of market makers with the specific aim of generating indicators of short term upward or downward price pressure on one or more securities.

Knowing if a security is under price pressure may greatly assist a trader in deciding when to buy or sell the security. As used by the Applicant, price pressure is an imbalance in individual or collective market maker activity that could lead to a price change in a particular security (page 11, lines 1-7).

The claimed systems and methods allow a trader to keep up with market dynamics in a timely fashion while highlighting economic opportunities before the opportunities pass. The market is constantly in flux, but the claimed methods and systems allow the trader to respond to market dynamics in a timely enough manner to take advantage of market opportunities that, without the claimed methods and systems, would likely be missed.

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[1] This Reply assumes that the reader has a working understanding of securities market structure and knows what is meant by level 1 data, level 2 data and the inside market. If not, the reader's attention is directed to the Background section of the application for an explanation of level 1 data and level 2 data.

As explained in the background section of the present application, to predict price movement in a security, traders conventionally observe market maker activity using raw level 1 and level 2 data. Prior to the Applicant's invention, traders had to mentally assimilate the raw level 1 and level 2 data to try to predict price movement. This is extraordinarily difficult and is mentally taxing on the trader. Also, experienced traders are only able to follow the activity of a handful of securities at a time. Without the power of the claimed methods and systems, trying to mentally identify indicators of market opportunities would likely be an impossible task.

The Applicant sets forth specific price pressure indicators that are not disclosed or reasonably suggested by the prior art. The analysis techniques may be applied in a timely and opportunistic manner across a large number securities and market makers so that a user can be made aware of price pressures for securities that are not closely observed. With hundreds of level 1 and level 2 data points that are updated each second for an exchange such as the NASDAQ, the claimed systems and methods allow traders to be more fully aware of the behavior of the market. This knowledge may lead to the placement of more opportune buy and sell orders that could not otherwise be accomplished without the claimed system and method.

U.S. Patent No. 6,278,982 to Korhammer

All pending claims have been rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6.278,982 to Korhammer.

Other than merging data from multiple sources, Korhammer only presents raw market data and is no different from the above-noted method of observing market maker activity available before the Applicant's invention.

Korhammer addresses the problem that each electronic communication networks (ECN) that is used as a alternative trading systems (ATS) is a closed system (column 3, lines 6-31). Also, ECNs are separate systems from electronic exchanges. The separation of ECNs and electronic exchanges leads to the need for a separate user terminal for each ECN and each electronic exchange to which the user subscribes. Also, each ECN and each exchange may have a different inside market for any one

security. As a result, the market for securities is effectively fragmented over the various ECNs and exchanges.

Korhammer's entire disclosure is directed to a system that integrates, organizes and displays raw securities market information from plural ECNs and electronic exchanges. On a stock by stock basis, Korhammer merely takes data that is made available by electronic exchanges and ECNs and combines the data into a single data stream. From the combined data stream, Korhammer's system collects the market maker activity for a stock (and only on a stock by stock basis) for display by a single user terminal. As such, Korhammer does not compare collective market maker activity across a plurality of securities, nor does Korhammer combine market maker activity from plural securities.

The remainder of Korhammer describes the placement of orders based on the combined data stream. That is, Korhammer allows the user to place buy and sell orders and route all or part of the orders to user-specified electronic exchanges and/or ECNs.

Korhammer does not teach or reasonably suggest the specific indicators of upward or downward price pressure on a security based on dynamic market maker activity that have been particularly pointed out and distinctly claimed in the application. Nor does Korhammer teach or suggest analyzing the inter-related collective and coactive behavior of market makers across plural securities to create timely indicators of market opportunities.

Some terms used by Korhammer have similarity to terms used by the Applicant, but after a detailed reading of this Reply, the present application and Korhammer, the patentable differences between the claimed subject matter and the teachings of Korhammer will be readily apparent. For instance, Korhammer uses the term "aggregate" to describe the assembly of bids and asks from multiple ECNs and exchanges in one common table. But nowhere does Korhammer disclose the use of the claimed statistics that are indicative or upward or downward price pressure. Korhammer does state that his system may calculate "real time metrics" (column 4, lines 46-51 and column 7, line 57 to column 8, line 4). The disclosed metrics are limited to "price-weighted average volume," "historical price spread" and "density metrics." No discussion of the specific nature of these metrics is presented. More importantly, from

the disclosed metrics, there is no teaching of the claimed subject matter. Korhammer does disclose tracking the direction of the movement of the highest bid with arrow 255 (figure 4), but this is not instructive of the claimed subject matter.

The data presented by Korhammer is graphically shown in figure 4 ("screen 250") and figure 5 ("screen 280"). Screen 250 shows data from an electronic exchange. The example shows NASDAQ data for Dell Computer Corp. (ticker symbol DELL). "Screen 250 shows no more than pricing information currently available from NASDAQ Level II Service" (column 9, lines 6-8, emphasis added). "Screen 280 shows not only NASDAQ Level II data but also the full order book for [plural] ECNs" (column 9, lines 12-14). The full order book is the data available from the individual ECNs and, thus, screen 280 represents nothing more than the consolidation of data from the exemplary electronic exchange and plural ECNs on one screen.

Since the data displayed by Korhammer is just pricing information available from electronic exchanges and ECNs, it logically follows that the claimed subject matter is not disclosed by Korhammer.

Claims 1-14 and 94-107

Independent claims 1 and 94 recite that a data stream of level 1 and 2 information is analyzed to derive a statistic indicative of temporary upward or downward price pressure. The deriving of the statistic includes a specifically claimed operation. Namely, for each security from a set of securities, the volume of each active bid is summed and the volume of each active ask is summed.

The result is the total number of shares that are bid for each security and the total number of shares that are offered for each security, or "the actual volume of bids and asks" as described in the application at page 21, lines 8-21 and graphically illustrated in figure 4A under column 96. Dependent claims 2 and 95 convert these actual totals into relative totals, or percentage of total bid and ask volume that is on the bid side and percentage of total bid and ask volume that is on the ask side.

These values may have importance to a trader as an indication of upward or downward price pressure. As explained at page 21, line 22 to page 22, line 10, if there is more bid volume, in the aggregate, than ask volume, in the aggregate, then there

may be demand for the security and the price may rise. The opposite may indicate that the price may fall. Bid and ask volumes that are close to each other may indicate price stability.

Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers. Nonetheless, the Examiner cites the "abstract and column 3 lines 34-67 and column 4 lines 1-67 and column 5 lines 105 [sic] and 31-67 and column 6-11 and column 12 lines 1-67" for teaching the forgoing claimed features. This citation is to practically the entire document and is without substantive analysis to demonstrate how the reference does, in fact, teach the subject matter of claims 1-14, 94-107 or any of the claims discussed in the remainder of this reply. Since the citation strategy fails to distinctly point out how the reference discloses the specifically claimed subject matter, it leaves an excessive burden on the applicant to ascertain the Examiner's logic behind the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 1 and 94 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter.

For instance, claims 6 and 99 recite, for each security, totaling the number of market makers who have an active bid and totaling the number of market makers who have an active ask. As described at page 21, lines 16-21 and graphically illustrated in column 94 of figure 4A, such values may indicate when there is demand for a security, supply of a security, or stability in the security. Korhammer contains no disclosure of tracking this collective behavior of market makers.

As another example, claims 8-9 and 101-102 recite specific filtering techniques that are not disclosed or fairly suggested by Korhammer. The filtering techniques will be discussed in greater detail below with respect to independent claims 78 and 171.

Claims 15-31 and 108-124

Independent claims 15 and 108 recite that a data stream of level 1 and 2 information is analyzed to derive a statistic indicative of temporary upward or downward price pressure. The deriving the statistic includes a specifically claimed operation. Namely, for each security and for each market maker that is bidding on the security, it is determined if the market maker's bid has increased, has stayed flat or has been reduced. Also, for each security and for each market maker that is offering the security, it is determined if the market maker's offer has increased, has stayed flat or has been reduced.

This "change" is described in the application at page 19, lines 8-28 and is graphically illustrated in figure 3 under the change ("Chng") column for market maker lists 84a and 84b, where graphical indicators (plus and minus signs) are used to visually portray the derived statistics.

Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 15 and 108 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter.

For instance, claims 16-17 and 109-110 build on the concept of the respective base claims by deriving "buy pressure" and "sell pressure." As described in the application at page 22, line 15 to page 23, line 11 and graphically illustrated in figure 4A, column 92, the buy pressure is the number of market makers that have increased their bid price reduced by the number of market makers that have decreased their price. Similarly, sell pressure is the number of market makers that have increased their ask price reduced by the number of market makers that have decrease their price.

Buy pressure and sell pressure are novel and unobvious concepts that may be indicative to the trader of when a price for a stock may rise, may fall or may stay stable. Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers. Also, the Examiner makes no attempt to point out how these claims are taught by the reference.

Claims 18 and 111 continue to build on the concept of the respective base claims by deriving "pressurized bid volume" and "pressurized ask volume." As described in the application at page 23, line 12 to page 24, line 16 and graphically illustrated in figure 4A, column 98, these values combine the buy pressure and the sell pressures with the associated volumes. Thus, the trader may be made aware of large numbers of shares that market makers are collectively trying to acquire or sell.

Acting as weighted indicators or the Applicant's "buy pressure" and "sell pressure," pressurized bid volume and pressurized ask volume are novel and unobvious concepts that may be indicative of price direction. Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers. Also, the Examiner makes no attempt to point out how these claims are taught by the reference.

Claims 19, 22, 112 and 116 recite features described above with respect to claims 1 and 94. Claims 24 and 117 recite features described above with respect to claims 6 and 99. Claims 25-26 and 118-119 recite specific filtering techniques that are not disclosed or fairly suggest by Korhammer. The filtering techniques will be discussed in greater detail below with respect to independent claims 78 and 171.

Claims 32-41 and 125-134

Independent claims 32 and 125 recite that a data stream of level 1 and 2 information is analyzed to derive a statistic indicative of temporary upward or downward price pressure. The deriving the statistic includes a specifically claimed operation. Namely, for a selected market maker, the securities for which the market maker has active bids and asks are identified with an indication of the market maker's bid and ask volume for those securities.

This "market maker's book" is described in the application at page 26, line 12 to page 27, line 6 and is graphically illustrated in figure 4B under column 100.

Nowhere in Korhammer is there a disclosure of tracking such behavior of a specific market maker. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 32 and 125 recite patentable subject matter. In addition, the dependent claims recite patentable subject matter.

Claims 42-52 and 135-145

Independent claims 42 and 135 recite that a data stream of level 1 and 2 information is analyzed to derive a statistic indicative of temporary upward or downward price pressure. The deriving the statistic includes a specifically claimed operation. Namely, for selected securities, each market maker's bid volume and ask volume are determined. Therefore, for each security and market maker pair, bid volume and ask volume are determined.

This "market stocks" determination is described in the application at page 27, line 17 to page 29, line 2 and is graphically illustrated in figure 4C under column 108. This information may be useful as an indicator of whether a particular market maker is attempting to purchase or sell large amounts of a particular security, which may be a predictor or price movement.

Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers on a security by security basis. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 42 and 135 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter.

For example, claims 44 and 137 build on the concept of the respective base claims by displaying information in a specifically selected arrangement. In particular, the arrangement is a table where the security and market maker pairs are ordered by highest sum of bid volume and ask volume.

Claims 53-64 and 146-157

Independent claims 53 and 146 recite that a data stream of level 1 and 2 information is analyzed to derive a statistic indicative of temporary upward or downward price pressure. The deriving the statistic includes a specifically claimed operation.

Namely, on a market maker by market maker basis, the bid volume for the market maker is summed and the ask volume for the market maker is summed.

This "market player's" determination is described in the application at page 29, line 3 to page 30, line 2 and is graphically illustrated in figure 4D under column 112.

Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 53 and 146 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter.

For example, claims 55 and 148 build on the concept of the respective base claims by deriving a novel and unobvious parameter referred to by the Applicant as "market maker buy pressure" and "market maker sell pressure." These parameter use the concept of "buy pressure" and "sell pressure" described above and apply the price direction of the bids and asks to the book of the market maker. The market maker buy pressure and market maker sell pressure and/or the volumetric information from the base claims can alert a user to how a particular market maker is behaving, which might be indicative of how the market maker believes the marker as whole is directed.

Claims 65-77 and 158-168

Independent claims 65 and 158 recite that a data stream of level 1 and 2 information is analyzed to derive a statistic indicative of temporary upward or downward price pressure. The deriving the statistic includes a specifically claimed operation. Namely, on a security by security basis and a market maker by market maker basis, a "bid persistence statistic" and an "ask persistence statistic" is determined. These statistics indicate how aggressively a market maker is attempting to buy or sell the corresponding security. The statistics identify approximately how long the market maker is at or better than the inside market for the security over a selected period of time.

The "bid persistence statistic" and "ask persistence statistic" are described in the application at page 30, line 3 to page 33, line 26 and are graphically illustrated in figure 4E under columns 118 and 120 for two different time periods.

Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 65 and 158 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter.

For example, claims 66 and 159 recite a first way to calculate the statistics and claims 67 and 160 recite a second way to calculate the statistics. Claims 72 and 165 filters out securities with a low trade volume as the persistence statistics may not be very meaningful for low volume securities.

Claims 78-83 and 171-176

Independent claims 78 and 171 recite an inventive data filtering technique to increase the predictive accurateness of the statistics discussed thus far. In particular, bids and asks that are separated in price from the last trade of the corresponding security are removed from the data stream. Additional filtering along these lines is recited by dependent claims 79 and 172.

This "level 2" data filtering technique is described at page 15, line 17 to page 16, line 23.

The filtering technique set forth in independent claims 78 and 171 is recited by dependent claims that flow from the various independent claims discussed above. As such, those dependent claims combine with their base claims to recite additional novel and unobvious aspects of the present invention.

Nowhere in Korhammer is there a disclosure of the claimed filtering technique. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection. The filtering described in Korhammer is based on "minimum order size" (column 3, lines 48-51 and column 8, lines 28-38), which is a volume based filtering as opposed to the claimed approach that is based on

threshold price percentage. Other filtering described in Korhammer is based on "minimum price granularity" (column 3, lines 48-51 and column 8, lines 28-38), which refers to what fractions of dollars is to be displayed (e.g., 1/8th, 1/16th. 1/32th). Price granularity is largely irrelevant now that markets use decimal values instead of fractions. Also, price granularity filtering is not the same as the claimed filtering.

Other filtering described in Korhammer is "ECN filtering" (column 7, lines 52-56). This filtering removes data related to ECNs to which the end user is not entitled to receive. This filtering is based on subscription status and member privileges, and has nothing to do with the claimed subject matter.

Korhammer allows for customer filtering to manage displayed level 1 and level 2 data. But there is no teaching or suggestion to perform the specifically claimed price-based filtering.

Since the reference fails to teach or reasonably suggest the claimed features, claims 78 and 171 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter.

For example, claims 80 and 173 recite that the filtering of the base claims is conducted for plural threshold percentages. Claims 83 and 176 recite a "crossed market filter," as described in the application at page 19, lines 17.

Claims 84-89 and 177-182

In combination with deriving a statistic indicative of temporary upward or downward price pressure, independent claims 84 and 177 recite that a displayed order of the statistic values is dynamically sorted. As described at page 25, lines 3-23, dynamic sorting keeps the statistic values in order (e.g., ascending or descending order), even if the statistics change due to the activity of the market makers.

Korhammer discloses sorting only to the extent that bids and asks for a selected security are displayed first by price, and then by another attribute, such as time of placement or volume (column 3, lines 41-47). Korhammer does not disclose deriving a statistic indicative of temporary upward or downward price pressure for plural securities and displaying those statistics on a dynamically updated basis. Nonetheless, the

Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 84 and 177 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter.

For example, claims 85 and 178 recite that the dynamical sorting is turned off so that displayed information remains in the same order, even though the statistics continue to be revised. Claims 86-87 and 179-180 recite the filtering that is described above.

Claims 90 and 183

In combination with deriving a statistic indicative of temporary upward or downward price pressure, independent claims 90 and 183 recite charting the statistic over a period of time for one of the securities. While charting trade prices over time is fairly common, Korhammer does not teach or suggest the claimed combination. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 90 and 184 recite patentable subject matter.

Claims 91-93 and 184-186

Independent claims 91 and 184 are directed to assisting the trader in analyzing "market depth." Exemplary results of the claimed subject matter are illustrated in figure 3 as bar charts 86. The associated description may be found in the application at page 17, line 29 to page 18, line 15.

As claimed, the bids and asks are respectively grouped by price. For the bids, the number of bids in each group and the volume of those bids are displayed for each group. Similarly, for the asks, the number of asks in each group and the volume of those asks are displayed for each group. This information may give the trader a degree of understanding as to how aggressively market makers are attempting to buy or sell the corresponding security, which may be an indicator of price movement.

Nowhere in Korhammer is there a disclosure of tracking such behavior of market makers. Nonetheless, the Examiner cites the same extensive portions of the reference that are identified above in support of the rejection.

Since the reference fails to teach or reasonably suggest the claimed features, claims 91 and 184 recite patentable subject matter.

In addition, the dependent claims recite patentable subject matter. For example, claims 92-93 and 185-186 recite the filtering that is described above.

Withdrawal of Rejections Requested

As will be appreciated, the claimed subject matter is not anticipated. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(e) is respectfully requested.

4.   New Claims

Claims 187-210 have been added. These claims recite novel and unobvious aspects of the invention. In particular, these claims are directed to Applicant's approach of simultaneously analyzing market maker activity for plural securities. Korhammer merely combines data from multiple feeds into a single stream for display on a user terminal. There is no teaching or reasonable suggestion of analyzing the collective behavior of plural market makers for plural securities as set forth in the added claims.

5.   Conclusion

In light of the foregoing, it is respectfully submitted that the present application is in condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned representative to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0988, our Order No. CUTLP0102US.

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